

EXPRESSION OF INTEREST (EOI) for Establishment of Control system Engineering Laboratory in the Department of ECE

IIIT-A EOI for Establishment of Control system Engineering Laboratory in the Department of ECE
Ref. No.: IIIT-A/S&P/EOI/652/978/2020

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY ALLAHABAD

(An institute of National Importance established by Govt)

Deoghat, Jhalwa, Prayagraj – 211015 (UP) INDIA



EXPRESSION OF INTEREST (EOI) for Establishment of Control system Engineering Laboratory in the Department of ECE”

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Date of Issue of EOI: 03/03/2020

Introduction:

Expression of Interest (EOI) are invited online through CPP Portal for “Establishment of Control system Engineering Laboratory in the Department of ECE” from reputed Manufacturers / Dealers/ Firms having experience of establishment of Labs in IITs/ NITs/ other reputed CFTI recognized institutions. Manual submission of EOI shall not be accepted. The details of EOI are as under.

The Indian Institute of Information Technology Allahabad (IIITA) was established in 1999, as a center of excellence in Information Technology and allied areas. The institute was conferred the "Deemed University" status by Govt. of India in the year 2000.

The Institute has been conceived with the ambitious objectives of developing professional expertise and skilled manpower in Information Technology (IT) and related areas. As an apex nucleating institute in the area of IT, the establishment of IIITA, is a major step of Govt. of India towards strengthening the indigenous capability necessary for exploiting profitably and harnessing multi-dimensional facets of IT at all levels, and attaining expertise to enable the country to emerge as a leading player in the global arena.

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The beautiful 100 acre campus, situated at Deoghat, Jhalwa, Prayagraj designed meticulously on the Penrose Geometry pattern, is being further topped by fine landscaping to give an all-round soothing effect to create a stimulating environment.

The campus is envisaged to be a fully residential one, with all its faculty, staff and students housed in different pockets. All academic and residential areas are connected to the Institute network. Institute is now planned to implement ICT in its day to day functioning to make a digital and paperless environment to best possible extent.

The EOI intends to invite the potential bidders to attend a bidder's conference with all details, for campus visit and other essential clarifications at their own cost. Potential bidders willing to attend the Pre-bid conference are requested to submit their EOI through CPP Portal and submit it before EOI submission End Date. Accommodation may be provided at IIITA guest house on sharing basis and payment of nominal charges as per institute rules & based on availability of the same.

For campus visit (schedule/time), required assessment and other technical queries related to enquiry, please contact to office of the Head of Department (ECE), CC-1, IIIT-Allahabad, Deoghat, Jhalwa, Prayagraj, 0532-292101, Email: ashutosh_singh@iiita.ac.in

CRITICAL DATE SHEET

Publish Date	03/03/2020 (01:00 PM)
EOI Document Download Start Date	03/03/2020 (01:00 PM)
EOI Submission Start Date	03/03/2020 (01:00 PM)
Pre Bid Meeting	13/03/2020 (11:00 AM)
Query submission last date	17/03/2020 (10:00AM)

EOI Submission End Date	24/03/2020 (12:00 PM)
Technical EOI Opening Date	25/03/2020 (04:00 PM)
Validity of EOI	90 days from the end date of submission of EOI.

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Note: All the EOI submitted firm are hereby informed that the pre-bid meeting is schedule on prescribed date which is mentioned in EOI critical date sheet and it will be held in the conference hall, 2nd floor, Admin Extension building-I. The interested firm is requested to provide the contact person detail.

1. EOI document may be downloaded from IIITA website <https://www.iiita.ac.in> (for reference only) and CPPP site <https://eprocure.gov.in/eprocure/app> as per the schedule as given in CRITICAL DATE SHEET asunder.
2. EOI shall be submitted online only at CPPP website: <https://eprocure.gov.in/eprocure/app>. Applicants/Contractors are advised to follow the instructions provided in the 'Instructions to the Contractors/Applicants for the e-submission of the EOI online through the Central Public Procurement Portal for e-procurement at <https://eprocure.gov.in/eprocure/app>'. EOI documents may be scanned with 100 dpi with black & white option which helps in reducing size of the scanned document.
3. Not more than one EOI shall be submitted by one vendor to another vendor having business relationship. Under no circumstance will father and his son(s) or other close relations who have business relationship with one another (i.e. when one or more partner(s)/director(s) are common) be allowed to EOI for the same contract as separate competitors. A breach of this condition will render the EOI of both parties liable to rejection.
4. An applicant who has downloaded the EOI from the IIITA website <https://www.iiita.ac.in> (For reference only) and Central Public Procurement Portal (CPPP) website <https://eprocure.gov.in/eprocure/app> shall not modify the EOI form in any manner.

Instructions for Online EOI Submission:

The Applicants are required to submit soft copies of their EOI electronically on the CPP Portal, using valid Digital Signature Certificates. The instructions given below are meant to assist the Applicants in registering on the CPP Portal, prepare their EOI in accordance with the requirements and submitting their EOI online on the CPP Portal.

More information useful for submitting online EOI on the CPP Portal may be obtained at: <https://eprocure.gov.in/eprocure/app>.

➤ **REGISTRATION**

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1. Applicants are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: <https://eprocure.gov.in/eprocure/app>) by clicking on the link “**Online Applicant Enrolment**” on the CPP Portal which is free of charge.
2. As part of the enrolment process, the Applicants will be required to choose a unique username and assign a password for their accounts.
3. Applicants are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.
4. Upon enrolment, the Applicants will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / nCode / eMudhra / Capricorn etc.), with their profile.
5. Only one valid DSC should be registered by an Applicant. Please note that the Applicants are responsible to ensure that they do not lend their DSC’s to others which may lead to misuse.
6. Applicant then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC /e-Token.

➤ **SEARCHING FOR EOI DOCUMENTS**

1. There are various search options built in the CPP Portal, to facilitate Applicants to search active EOIs by several parameters. These parameters could include EOI ID, Organization Name, Location, Date, Value, etc. There is also an option of advanced search for EOIs, wherein the Applicants may combine a number of search parameters such as Organization Name, Form of Contract, Location, Date, Other keywords etc. to search for a EOI published on the CPP Portal.
2. Once the Applicants have selected the EOIs they are interested in, they may download the required documents / EOI schedules. These EOIs can be moved to the respective ‘My EOIs’ folder. This would enable the CPP Portal to intimate the Applicants through SMS / e-mail in case there is any corrigendum issued to the EOI document.
3. The Applicant should make a note of the unique EOI ID assigned to each EOI, in case they want to obtain any clarification / help from the Helpdesk.

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➤ **PREPARATION OF EOI**

1. Applicant should take into account any corrigendum published on the EOI document before submitting their EOI.
2. Please go through the EOI advertisement and the EOI document carefully to understand the documents required to be submitted as part of the EOI. Please note the number of covers in which the EOI documents have to be submitted, the number of documents - including the names and content of each of the document that need to be submitted. Any deviations from these may lead to rejection of the EOI.
3. Applicant, in advance, should get ready the EOI documents to be submitted as indicated in the EOI document / schedule and generally, they can be in PDF / XLS / RAR / DWF/JPG formats. EOI documents may be scanned with 100 dpi with black & white option which helps in reducing size of the scanned document.
4. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every EOI, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the Applicants. Applicants can use “My Space” or “Other Important Documents” area available to them to upload such documents. These documents maybe directly submitted from the “My Space” area while submitting an EOI, and need not be uploaded **again** and again. This will lead to a reduction in the time required for EOI submission process.

➤ **SUBMISSION OF EOI**

1. Applicant should log into the site well in advance for EOI submission so that they can upload the EOI in time i.e. on or before the EOI submission time. Applicant will be responsible for any delay due to other issues.
2. The Applicant has to digitally sign and upload the required EOI documents one by one as indicated in the EOI document.
3. The server time (which is displayed on the Applicants’ dashboard) will be considered as the standard time for referencing the deadlines for

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submission of the EOI by the Applicants, opening of EOI etc. The Applicants should follow this time during EOI submission.

4. All the documents being submitted by the Applicants would be encrypted using PKI encryption techniques to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of EOI opening. The confidentiality of the EOI is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done. Any EOI document that is uploaded to the server is subjected to symmetric encryption using a system generated symmetric key. Further this key is subjected to asymmetric encryption using buyers/EOI opener's public keys. Overall, the uploaded EOI documents become readable only after the EOI opening by the authorized EOI openers.
5. The uploaded EOI documents become readable only after the EOI opening by the authorized EOI openers.
6. Upon the successful and timely submission of EOI (i.e. after Clicking "Freeze EOI Submission" in the portal), the portal will give a successful EOI submission message and a EOI summary will be displayed with the EOI No. and the date& time of submission of the EOI with all other relevant details.
7. The EOI summary has to be printed and kept as an acknowledgement of the submission of the EOI. This acknowledgement may be used as an entry pass for any EOI opening meetings.

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➤ **ASSISTANCE TO APPLICANTS**

1. Any queries relating to the EOI document and the terms and conditions contained therein should be addressed to the EOI Inviting Authority for an EOI or the relevant contact person indicated in the EOI.
2. Any queries relating to the process of online EOI submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 3070 2232, 91-7878007972 and 91-7878007973.

Sub: Expression of Interest (EOI) are invited online through CPP Portal for “Establishment of Control system Engineering Laboratory in the Department of ECE” from reputed Manufacturers / Dealers/ Firms having experience of establishment of Labs in IITs/ NITs/ other reputed CFTI recognized institutions. Manual submission of EOI shall not be accepted. The details of EOI are as under.

Terms of Reference:

Terms of reference for this EOI are as follows:-

- a) Offers near to the scope of the work/requirements listed in this EOI will be qualified for invitation from the institute for demonstration to departmental users at IIIT Allahabad.
- b) After EOI stage, Tender will be issued in Two part Bid system (1. Technical or Techno-Commercial and 2. Price Offer or Financial Bid) through CPP Portal as well as IIIT Allahabad website. The second stage bidding may or may not be restricted only to the shortlisted bidders of EOI stage. Normal OTE/GTE bidding may be done.
- c) Agency/Organization, if found, to have indulged in any corrupt or fraudulent practices, their EOI document will not be considered.
- d) For technical queries related to enquiry, please contact to office of the Head of Department (ECE), CC-1, IIIT-Allahabad, Deoghat, Jhalwa, Prayagraj, 0532-292101, Email: ashutosh_singh@iiita.ac.in
- e) For any other clarification you may contact Store & Purchase Section (0532-2922061) or mail to info.purchase@iiita.ac.in.

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- f) Director, Indian Institute of Information Technology Allahabad reserves the right to alter/cancel the process, if the necessity so arises, or to seek further information/details.

For other queries pertaining to this EOI, correspondence to be addressed to:

JR (Store & Purchase)

Indian Institute of Information Technology Allahabad

Deoghat, Jhalwa, Prayagraj -211015

Phone: +91 0532-2922061

Email: info.purchase@iiita.ac.in

Scope of Work:

Expression of Interest (EOI) are invited online through CPP Portal for “Establishment of Control system Engineering Laboratory in the Department of ECE” from reputed Manufacturers / Dealers/ Firms having experience of establishment of Labs in IITs/ NITs/ other reputed CFTI recognized institutions. Manual submission of EOI shall not be accepted. The details of EOI are as under.

Experiments of Control System Engineering Laboratory:

1. Using MATLAB and SCILAB

- a. Simulation of a typical second order system and determination of step response and evaluation of time domain specification.
 - b. Evaluation of the effect of additional poles and zeroes on time response of second order system.
 - c. Evaluation of effect of pole location on stability.
-
2. a) To design a passive RC lead compensating network for the given specification, viz., the maximum phase lead and the frequency response.
b) To determine experimentally the transfer function of the lead compensating network.
 3. a) To design RC lag compensating network for the given specification., viz., the maximum phase lag and the frequency at which it occurs , and to obtain its frequency response.
b) To determine experimentally the transfer function of the lag compensating network.

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4. Experiment to draw the frequency response characteristics of a given lag- lead compensating network.
5. To study the effect of P, PI, PD and PID controller on step response of a feedback control system (Using control engineering trainer/process control simulator).
Verify the same by simulation.
6. a) Experiment to draw the speed – torque characteristics of a two – phase A.C. servomotor.
b) Experiment to draw speed torque characteristics of a D.C. servomotor.
7. To determine experimentally the frequency response of a second – order system and evaluation of frequency domain specification.
8. Using SCILAB
 - a) Simulator a D.C. position control system and obtain its step response.
 - b) To verify the effect of the input wave form, loop gain system type on steady state errors.
 - c) To perform a trade –off study for lead compensation.
 - d) To design a PI controller and study its effect on steady state error.
9. Using SCILAB
 - a) To examine the relationships between open-loop frequency response and stability, open loop frequency and closed loop transient response.
 - b) To study the effect of addition closed loop poles and zeroes on closed loop transient response.
10. Using SCILAB
 - a) Effect of open loop and zeroes on root locus contour.
 - b) To estimate effect of open loop gain on the transient response of closed loop system by using root locus.
 - c) Comparative study of Bode, Nyquist and Root locus with respect to stability.
11. Experiment to draw to syncro pair characteristics.
12. Fuzzy controllers for DC Drivers to estimate its performance in Comparison to conventional PID Controllers.
13. Water level controller.
14. Temperature Control using PID controller

Any other functions of a Technical Institute like IIIT Allahabad not covered above.

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Pre-Qualification and Other Requirements:

The following documents are to be furnished by the Applicant along with Technical Details as per the EOI document (As applicable):

- i) Scanned Copy of valid certificate of registered company.
- ii) Scanned Copies of PAN card, GST and Service Tax/ Sales Tax registration certificate.
- iii) Letter of Application (As per the template attached in Annexure-I)
- iv) Copy of previous experience (Annexure-II)
- v) Copy of power of attorney for EOI signatory (Annexure-III)
- vi) Copy of self-declaration (Annexure-IV)
- vii) The interested firm should have in the Establishment of Engineering laboratory business for at least 3 years as of 31st March, 2019. The documentary evidence in support of this must invariably be enclosed with the EOI document.
- viii) The interested firm should have a turnover of at least **Rs. 25 Lakh** as revealed in the Annual Financial Statements reported in India in each of the last 3 Financial Years (2016-2017, 2017-2018, and 2018-2019). However, Start-up companies are encouraged as per GoI policies applicable in this case.
- ix) The interested firm should have completed at least 3 projects of Establishment of Engineering laboratory with any of the Higher Education Institutes / Central Universities/Centrally Funded Technical Institutes like IITS/IITs/NITs etc. during last 3 years. However, Start-up companies are encouraged as per GoI policies applicable in this case.
- x) Demonstration of Proof of Concept (PoC) of the functionalities is essential to present at the time of pre-bid meeting.
- xi) The interested firm should not be under a declaration of ineligibility for corrupt and fraudulent practices issued by the GoI/ State Governments/ Regulatory agencies.

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Annexure-I

LETTER OF APPLICATION

(On company letter head)

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1. Name of the Company: _____
2. Mailing Address: _____

3. Contact Executive: _____
4. Name & Designation: _____
5. Telephone: _____
6. Fax: _____
7. Mobile: _____
8. Email: _____
9. Website: _____
10. Registration Number of the company: _____
11. PAN No.: _____
12. GST Registration No.: _____

(Authorized Signatory)

Name:

Designation:

Stamp of the company:

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Annexure-II

PREVIOUS EXPERIENCE

Interested applicants may use the below form to showcase their experience in similar field. One form for each experience may be attached with the application.

S. No.	Particulars	Details
1.	Name of the Project	
2.	Location & State	Location: State:
3.	Capital Cost of the Project	INR _____ Rupees (in words) _____ _____
4.	Details of the Project	
5.	Experience of Applicant in similar Projects	_____ Years (please enclose work orders, agreements, contracts with relevant authorities)
6.	Type of Organization	Please tick (enclose proof) Company Partnership Trust Society Other, please mention _____

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Annexure-III

POWER OF ATTORNEY FOR EOI SIGNATORY

(To be provided on non-judicial stamp paper of Rs. 100)

Know all men by these presents, We, [-----],
(name and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorise Mr./ Ms [-----], son/daughter/wife of [-----]
] and presently residing at [-----]
-], who is presently employed with us and holding the position of [-----]
], as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to participation in auction process, including but not limited to signing (including through affixation of digital signatures) and submission of all applications, affidavits, bids and other documents and writings, participate in bidders’ and other conferences and providing information/responses to IIIT-Allahabad, representing us in all matters before IIIT-Allahabad, and generally dealing with IIIT-Allahabad in all matters in connection with or relating to or arising out of our bid for the web based **‘Establishment of Control system Engineering Laboratory in the Department of ECE** ‘and/or upon award thereof to us.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this power of attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE, [-----]
], THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY
ON THIS [-----] DAY OF [-----], 20[-----]

For [-----]

(Signature, name, designation and address)

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Witnesses:

1. -----
2. -----

Accepted

(Signature, name, designation and address of the Attorney)

Notes:

1. The power of attorney to be submitted by the Bidder shall substantially be in the format set out above.
2. The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, lay down by the applicable law and the charter documents of the executants(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.
3. Also, where required, the executants(s) should submit for verification the extract of the charter documents and documents such as a resolution / power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the applicant.
4. In case the proposal is signed by an authorized director of the applicant, a certified copy of the appropriate resolution / document conveying such authority may be enclosed in lieu of the Power of Attorney.

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Annexure-IV

DECLARATION

1. I/We, -----Son /Daughter of Mr./Ms. -----
----- Proprietor/Partner/CEO/MD/Director/Authorized Signatory
of M/s. -----am competent to sign this declaration and
execute this document.
2. I/We have carefully read and understood all the terms and conditions of the EOI, meet
the same and hereby convey my acceptance of the same.
3. The information/ documents furnished along with the above application are true and
authentic to the best of my knowledge and belief.
4. I/We am/ are well aware of the fact that furnishing of any false information/ fabricated
document would lead to the summarily rejection of my EOI at any stage besides
liabilities towards prosecution under appropriate law.
5. Each page of the EOI document and attached annexure, if any, are authenticated, sealed
and signed and I take full responsibility for the entire documents submitted.

**Signature of the Authorized Signatory
(With Seal)**

Place:

Date: